

REMARKS

This is a complete and timely response to the Final Office Action mailed May 24, 2007. Claims 1-13 are pending in the application. In light of the following remarks, Applicants request reconsideration of the application and pending claims.

Claim Rejections Under 35 USC § 103 – Claims 1-13

A. Statement of the Rejections

Claims 1-3, 9, 10 and 12 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,744,811 to Kantschuk, hereafter *Kantschuk* in view of admitted prior art and the English translation of Japanese Patent No. JP09-261180 to Shinichi *et al.*, hereafter *Shinichi*.

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Kantschuk* and admitted prior art and *Shinichi* in further view of U.S. Patent No. 5,808,760 to Gfeller, hereafter *Gfeller*.

Claims 6 and 7 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Kantschuk* and admitted prior art and *Shinichi* in further view of U.S. Patent No. 6,690,650 to Stener, hereafter *Stener*.

Claims 8, 11 and 13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Kantschuk* and admitted prior art and *Shinichi* in further view of U.S. Patent No. 6,647,058 to Bremer, hereafter *Bremer*.

Each of the claim rejections relies on the proposed combination of *Kantschuk* with a network of installed optical fiber links of various lengths and bandwidths which are capable of handling a variety of transmission rates from a few Gb/s to as many as 10 Gb/s (Applicants' admitted prior art) and *Shinichi*.

B. Discussion of the Rejections

Applicants respectfully traverse the rejection of claims 1-13 over the above-referenced combinations, for at least the reason that the Office Action has failed to establish a *prima facie* case of obviousness. Specifically, the Office Action has impermissibly selected elements from the cited references and alleged that the combination of the select elements with Applicants' admitted prior art renders Applicants' claimed inventions obvious. It is impermissible to select elements from

separate references when there was no teaching or suggestion in the prior art that would lead one of ordinary skill to make the claimed combinations.

Applicants respectfully submit that it is not the Applicants' burden to prove that no teaching, suggestion, or motivation exists within the prior art that would lead one of ordinary skill to make the particular combination of elements, as claimed. Instead, the initial burden is upon the Patent Office to establish a *prima facie* case of obviousness. Such a *prima facie* showing includes an identification of a proper suggestion or motivation within the prior art to make the combination.

For a claim to be properly rejected under 35 U.S.C. § 103, "[t]he PTO has the burden under section 103 to establish a *prima facie* case of obviousness. In order to make a proper *prima facie* case of obviousness; three basic criteria must be met, as set forth in MPEP § 706.02(j). First, there must be some suggestion or motivation; either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references, when combined, must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicant's disclosure.

Regarding the suggestion or motivation requirement, MPEP § 2143.01 states "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) In *In re Rouffet*, the combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.

MPEP § 2143.01 further states, "In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). According to *Carl Schenck, A.G. v. Norton Corp.*, 713 F.2d

782 (Fed. Cir. 1983), the focus of a nonobviousness inquiry is not limited to determining structural distinctions from the prior art and finding that the structural distinctions alone would have been obvious. Rather, the invention “as a whole” must be considered, and “the invention as a whole embraces the structure, its properties, and the problem it solves.” *In re Wright*, 848 F.2d 1216 (Fed. Cir. 1988).

The problems addressed by *Kantschuk* and the present invention are distinct. *Kantschuk* discloses systems and methods for bandwidth management for digital subscriber line (DSL) modem pools. DSL technology provides an approach to addressing the demand for high-speed telecommunication service by integrating a high-speed data transmission over the existing copper infrastructure from a PSTN switch to a subscriber of telephone service. DSL technology uses signal processing techniques that permit voice and data to travel simultaneously over the same analog copper twisted-pair wire. When two or more DSL modem connections are carried via respective twisted-pair conductors in the same copper wire bundle, electromagnetic signal interference, commonly known as crosstalk, reduces the overall throughput of data transmissions through a DSL modem pool. Accordingly, *Kantschuk* presents systems and methods for managing the bandwidth of a DSL modem pool having at least two co-interfering modems (i.e., modems with throughput adversely affected by crosstalk).

In contrast with *Kantschuk*, Applicants’ claimed systems and methods relate to the adaptation of data transfer rates between optical transceivers in an optical fiber based network. An optical fiber based communication network does not use copper twisted-pair wire as a transmission medium. An optical fiber based communication network uses an optical fiber as the transmission medium. A transmitted signal in an optical fiber based communication system (i.e., modulated light) does not suffer from electromagnetic interference. Accordingly, an optical fiber based communication network is not subject to reductions in throughput due to crosstalk between disparate signals transmitted via closely located fibers. Thus, one of ordinary skill in fiber based optical communication systems, when faced with the problem of reducing the adverse effects of a single fiber link on overall network throughput in an optical fiber based communication network, would not look to a DSL technology, as disclosed by *Kantschuk*, for a solution.

Furthermore, the problems addressed by *Shinichi* and the present invention are also distinct. *Shinichi* relates to a wireless communication system for transmitting and receiving information using electromagnetic signals radiated into space. *Shinichi* addresses three separate problems related solely to wireless signal transmissions. First, *Shinichi* addresses line-of-sight drop-outs. Second, *Shinichi* addresses the requirement for multiple gateway devices to maintain connectivity with wired networks. Last, *Shinichi* addresses difficulties with eliminating noise from background light sources. An optical fiber based communication network does not use a wireless optical transmission medium. An optical fiber based communication network uses an optical fiber as the transmission medium. An optical fiber based communication system has no need for gateway devices to translate wireless signals to signals understood by fiber based data transfer protocols. Moreover, a transmitted signal in an optical fiber based communication system (i.e., modulated light confined to a fiber) does not suffer from noise introduced from background light sources. Accordingly, an optical fiber based communication network is not subject to line-of-sight drop outs, does not need gateway devices and is not subject to the introduction of noise from background light. Thus, one of ordinary skill in fiber based optical communication systems, when faced with the problem of reducing the adverse effects of a single fiber link on overall network throughput in an optical fiber based communication network, would not look to the wireless optical communication system disclosed by *Shinichi* for a solution.

Having found that one of ordinary skill in optical fiber based communication networks would not look to DSL technologies or wireless technologies for solutions to reduce the effects of a single fiber link on overall network throughput in an optical fiber based communication network, Applicants respectfully submit that the proposed combinations, which rely on *Kantschuk*, Applicants' admitted prior art and *Shinichi*, are constructed using impermissible hindsight reasoning. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. *In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006) (discussing rationale underlying the motivation-suggestion-teaching requirement as a guard against using hindsight in an obviousness analysis). The teaching, suggestion, or

motivation must be found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references).

In the present claim rejections, the Office Action concludes without explanation or analysis, “it is obvious that the same principle and method can be used in the optical communication since the problem need to be solved in optical communication is similar to that of DSL.” Applicants respectfully submit that the statement of the motivation for combining *Kantschuk* with Applicants’ admitted prior art is legally deficient for at least the additional reason that the stated motivation is not supported by explanation or analysis in view of the knowledge of one of ordinary skill in the art.

The present claim rejections further include the following conclusion absent explanation, “it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the rate adaptive system taught by *Kantschuk* and *Shinichi* to the fiber optical communication so that a best use of the optical resources can be obtained and any suspensions of communication can be avoided.” Applicants respectfully submit that the statement of the motivation for combining *Kantschuk*, *Shinichi* and Applicants’ admitted prior art is legally deficient for at least the reason that the stated motivation is not supported by explanation or analysis in view of the knowledge of one of ordinary skill in the art.

As a result, the proposed combinations fail to establish a *prima facie* case of obviousness with respect to Applicants’ independent claims 1, 9, 12 and 13. Consequently, Applicants’ claims 1, 9, 12 and 13 are allowable over the proposed combinations and the rejection of claims 1, 9, 12 and 13 under 35 U.S.C. § 103(a) should be withdrawn.

For at least the reason that claims 2-8 depend directly or indirectly from claim 1 and include all the features of independent claim 1; claims 10 and 11 depend directly or indirectly from independent claim 9, the rejection of claims 2-8, 10 and 11 under 35 U.S.C. § 103(a) should also be withdrawn. See *In re Fine*, *supra*.

CONCLUSION

For at least the reasons set forth above, Applicants respectfully submit that pending claims 1-13 are allowable over the cited art of record and the present application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully solicited. Should the Examiner have any comments regarding the Applicants' response, Applicants request that the Examiner telephone Applicants' undersigned attorney.

Respectfully submitted,

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